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| <b>PRE-APPEAL BRIEF REQUEST FOR REVIEW</b> |   | Docket Number (Optional)<br><b>249-336 (AMK)</b> |
|  | Application Number<br><b>10/812,304</b> | Filed<br><b>March 30, 2004</b>                   |
|  | First Named Inventor<br><b>Nakayama</b> |  |
|  | Art Unit<br><b>3726</b>                 | Examiner<br><b>S. Afzali</b>                     |

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

Applicant/Inventor

/Alan M. Kagen/

Signature

Alan M. Kagen

Assignee of record of the entire interest. See 37 C.F.R. § 3.71. Statement under 37 C.F.R. § 3.73(b) is enclosed. (Form PTO/SB/96)

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October 5, 2009

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.\*

\*Total of 1 form/s are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Claims 10, 22, 24 and 25 are not unpatentable under 35 U.S.C. §103(a) over U.S. Published Patent Application No. 2003/0181302 to Kaiser et al. in view of U.S. Patent No. 5,763,345 to Ohshima et al.

As discussed previously, the defined clay has a specific particle diameter distribution (in which 70% by weight or more of the particles have a particle size of 5 µm or smaller). Such clay having a narrow particle diameter distribution provides a greater binding effect and is excellent in wear resistance. The effect cannot be sufficiently obtained, however, unless the clay is used in a given amount or higher. With reference to the comparative examples described in the specification, it has been determined that the lower limit of the amount of the specific clay for attaining practically favorable surface hardness and wear resistance is 20% by weight. As noted, in addition, when the clay amount is from 30 to 40% by weight, further superior results are obtained as shown with reference to Examples 4B and 5B.

With regard to the upper limit, as also discussed previously, in Example 6B, elutriated clay was used in an amount larger than the claimed range (50% by weight versus 20-40% by weight), and scratches were caused on glass. Even if elutriation treatment is carried out, impurities cannot be removed completely. Therefore, when elutriated clay is used in an excess amount, an effect of the impurities develops. According to the claimed invention, the amount of the specific clay is limited (i.e., 40% by weight at the most), which thereby prevents damage to the plate glass while maintaining good wear resistance.

In contrast, the Kaiser publication references a heat resistant binder (clay) content of 40-50% by weight. Appellants acknowledge that an abutting range (i.e., the lower limit 40% in Kaiser) in the prior art establishes a *prima facie* case of obviousness. It is well settled, however, that an Appellant may overcome a *prima facie* case of obviousness by establishing "that the [claimed] range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range." *In re Geisler*, 116 F.3d at 1469-70, 43 USPQ2d at 1365 (alteration in original) (quoting *In re Woodruff*, 919 F.2d at 1578, 16 USPQ2d at 1936). See also, *In re Wertheim*, 541 F.2d 257, 267, 191 USPQ 90, 100 (CCPA 1976) (recognizing that "ranges which overlap or lie inside ranges disclosed by the prior art may be patentable if the Appellant can show criticality in the claimed range by evidence of unexpected results"). Moreover, the Applicant's showing of unexpected results must be commensurate in scope with the claimed range. *In re Peterson*, 315 F.3d 1325, 65 USPQ2d 1379, 1383 (Fed. Cir. 2003). See also, *In re Soni*, 54 F.3d 746, 750, 34 USPQ2d 1684, 1687 (Fed. Cir. 1995) ("One way for a patent Applicant to rebut a *prima facie* case of obviousness is to make a showing of 'unexpected results,' i.e., to show that the claimed invention exhibits some superior property or advantage that a person of ordinary skill in the relevant art would have found surprising or unexpected."). When an Applicant seeks to overcome a *prima facie* case of obviousness by showing improved performance in a range that is within or overlaps with a range disclosed in the prior art, the Applicant must "show that the [claimed] range is critical,

generally by showing that the claimed range achieves unexpected results relative to the prior art range.”  
*In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1990 (Fed. Cir. 1990).

With reference to the comments above and previous comments, Appellants respectfully submit that the defined maximum amount of specific clay at 40% by weight is a critical parameter that prevents damage to the plate glass while maintaining good wear resistance. Larger amounts as evidenced in Example 6B could result in scratches or other damage to the glass. The result amounts to a superior property and advantage that a person of ordinary skill in the art would have found surprising or unexpected. As such, Appellants submit that Kaiser and Ohshima fall short of the claimed invention, and Appellants submit that the rejection of claim 10 is misplaced.

In the “Response to Arguments” section of the May 5, 2009 Office Action, the Examiner acknowledges that the claimed ranges are critical. The Examiner refers, however, to the disclosure of numerous sections of the specification “that there is a wide range for each claimed ‘content range’ within which the invention would still perform equally well.” It is clear from the description of the examples and the comments above, however, that the use of materials outside the claimed ranges in fact would not perform “equally well.” For example, as noted with regard to Example 6B, merely changing the clay content to 50% increased the plate glass susceptibility to damage and wear. Appellants thus respectfully disagree with the conclusion that those of ordinary skill in the art would have found the critical ranges to be obvious matters of design choice.

With regard to dependent claims 22, 24 and 25, Appellants submit that these claims are allowable at least by virtue of their dependency on an allowable independent claim. Moreover, with regard to claims 24 and 25, it is not mathematically impossible in Ohshima to have clay content of particles with a particle size of 5 µm or larger in an amount of 15% (claim 24) or 10% (claim 25) by weight based on the weight of the clay. The Ohshima patent is silent with regard to such clay content, and thus should not be applicable against these claims. For this reason also, Appellants submit that the rejection of claims 24 and 25 is misplaced.

In reply to the Examiner’s comments in the “Continuation Sheet” of the Advisory Action, Appellants note that in a practical application, it is important that the scratches in the glass be almost entirely eliminated. When a produced glass plate includes scratches, even in a small number (such as 1), it deteriorates the yield. Furthermore, it causes serious trouble in a subsequent step at a user side. Therefore, even when only one glass scratch is found, manufacturers are forced to inspect every product (glass plate) within the same lot so as to confirm the presence/absence of a scratch. In addition, examination of equipment over the whole production line may be necessitated in order to specify the cause or origin of the scratch. Such inspection of products and examination of equipment require considerable time and effort, resulting in unnecessary costs and a heavy burden to manufacturers.

Though the "wear resistance" is an important evaluation item, it is not as important as characteristics that could result in a scratch. This is because even when the wear resistance of the roll is somewhat inferior, it merely somewhat advances the time for replacing the roll. Thus, a lesser burden is imposed on the manufacturers.

Reversal of the rejection is respectfully requested.

Claims 11 and 26 are not unpatentable under 35 U.S.C. §103(a) over Kaiser in view of Ohshima and U.S. Patent No. 4,533,581 to Asaumi et al. The Asaumi patent does not correct the deficiencies noted above with regard to Kaiser and Ohshima, taken singly or in combination. As such, Appellants submit that these dependent claims are allowable at least by virtue of their dependency on an allowable independent claim. Reversal of the rejection is requested.

Claim 23 is not unpatentable under 35 U.S.C. §103(a) over Kaiser in view of Ohshima and U.S. Patent No. 4,533,968 to Yoshida et al. The Yoshida patent does not correct the deficiencies noted above with regard to Kaiser and Ohshima. As such, Appellants submit that this dependent claim is allowable at least by virtue of their dependency on an allowable independent claim. Reversal of the rejection is requested.